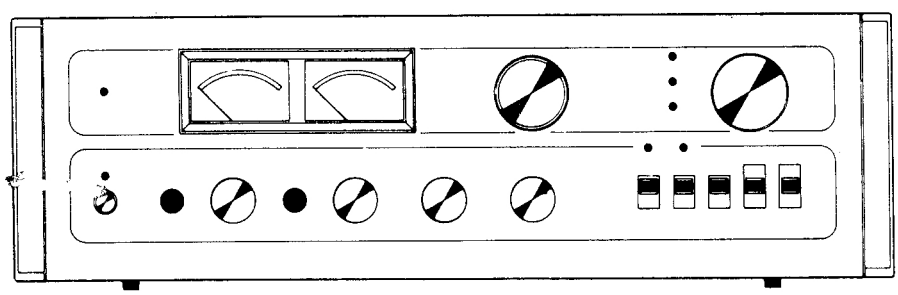
Lehnert GmbH

HIFI-SYSTEM 9000

SERVICE - UNTERLAGEN / SERVICE MANUAL

STEREO AMPLIFIER

Modell/Model SV 901



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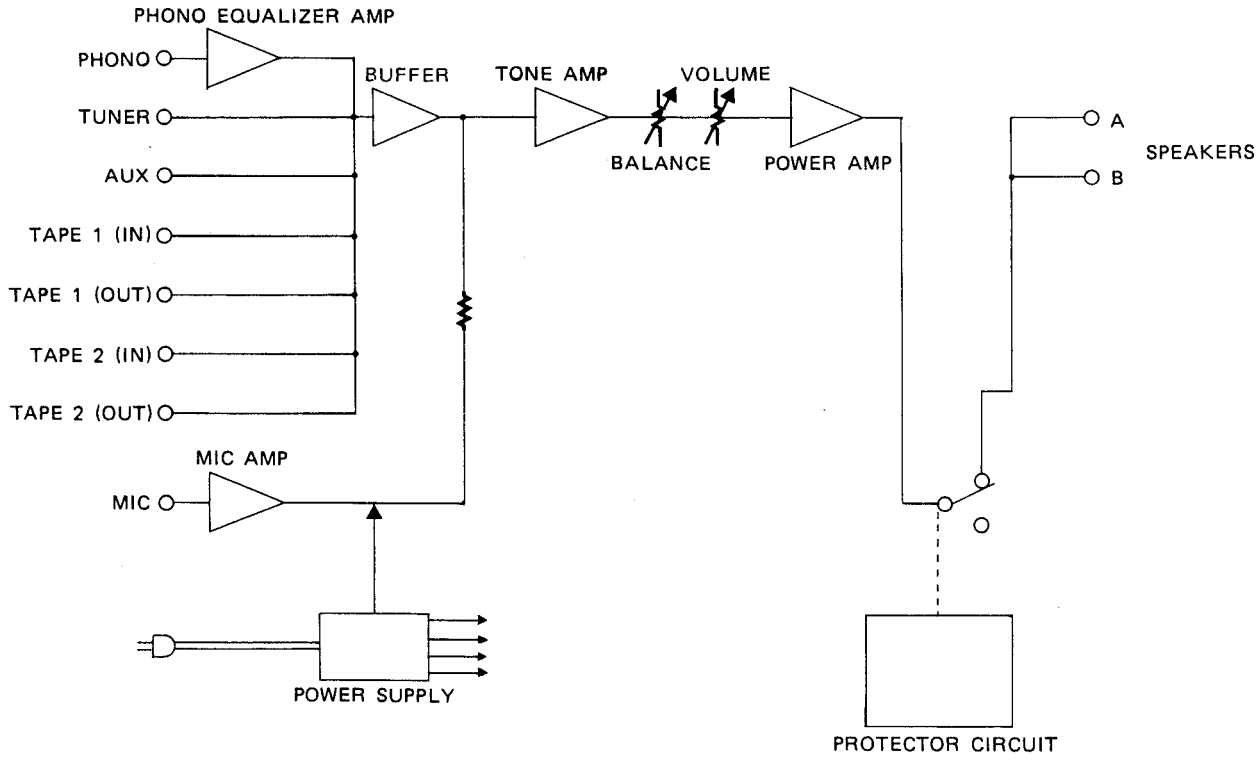
SPECIFICATIONS

Output	2 x 40 W (sinusoidal)	
Distortion Factor	0,1%	
Input Sensitivity	PHONO	1,5 mV
	AUX	140 mV
	TAPE 1	140 mV
	TAPE 2	140 mV
	TUNER	140 mV
Input Impedance	PHONO	47 kΩ
	AUX	50 kΩ
	TAPE 1	50 kΩ
	TAPE 2	50 kΩ
	TUNER	50 kΩ
Tone Control	treble	+/– 10 dB
	bass	+/– 10 dB
Cross-Talk Attenuation	50 dB	
Signal-to-Noise Ratio	70 dB	
Output voltage, tape recording	140 mV	
Power Supply	220 V/50 Hz a.c.	
Power Input	150 W max.	

BLOCK DIAGRAM



PARTS LIST

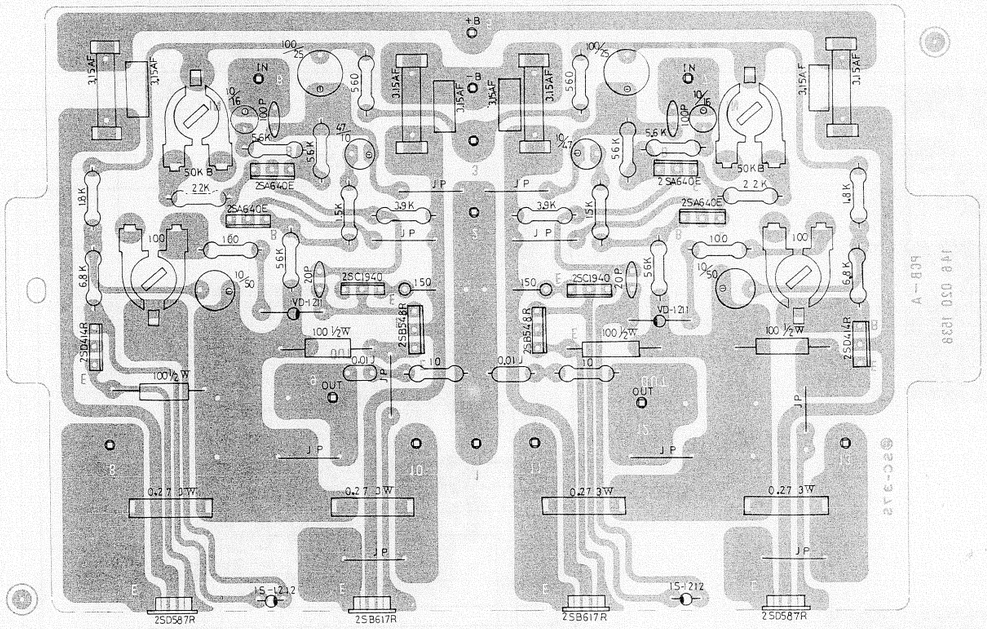
NO.	PARTS CODE NO.	DESCRIPTION	Q'TY
1	4401101283	Front Panel	1
2	8510401779	P.C.B. Fixing Tape	1
3	4201201586	Handle (Front Panel)	2
4	4030401772	Guide Bush	1
5	4401402530	Control Knob L	1
6	4011201584	Meter Frame	1
7	4401402552	Volume Knob	1
8	4021402554	Balance Knob	1
9	4401402553	Control Knob S	4
10	4400402585	Power Switch Button	6
11	4020412536	Switch Lever Knob	5
12	5010402537	Switch Cover A	3
13	4320101284	Front Shassis	1
14	4610402540	Meter Cushion	4
15	4600402220	Rubber Ring for Bar Antenna	1
16	4320101188	Power Supply Chassis	1
17	4320211394	Metal Fitting M	1
18	4320201396	,, ,, R	1
19	4310402556	Lever Switch Fixing Metal	1
20	4300101287	Back Chassis	1
21	4410111190	Heatsinker	1
22	4600401762	Edge Cover	2
23	4310401780	Fitting Metal (Jack Fixing)	2
24	4301201589	Top Cover	1
25	4320111192	Bottom Cover	1
26	4600400290	Rubber Leg (Bottom Cover)	4
27	4930001177	Gift Box	1
28	4070001173	Styrofoam Cushion	2
29	4120401752	Spacer	2
30	4900400873	Corrugated Paper for AC Cord Protection	1/6
31	4930402559	Master Carton	1/3
32	4130402386	Polyethylene Bag, 600 x 600(m/m)	1
33	4130402255	,, ,, 230 x 370(m/m)	1
34	4910402558	Instruction Booklet	1
35	4910402587	Guarantee Card	1
36	4920402557	Rating Label	1
37	4920401255	Label (2.5AT Fuse)	1
38	4920401751	,, (315MAT Fuse)	1
39	4920401778	,, (3.15AF Fuse)	4
40	4920401763	,, (6.3AT Fuse)	4
41	4920400110	Serial No. Label	4
42	0656801457	IC HA-1457	3
43	0603820587	Transistor 2SD-587 R (Q108, 208)	2
44	0601820617	,, 2SB-617 R (Q109, 209)	2
45	0603810414	,, 2SD-414 R (Q106, 206)	2
46	0601810548	,, 2SB-548 R (Q107, 207)	2
47	0602831940	,, 2SC-1940 L (Q110, 210)	2
48	0600810640	,, 2SA-640 E (Q104, 105, 204, 205)	4

NO.	PARTS CODE NO.	DESCRIPTION	Q'TY
49	0600830733	Transistor 2SA-733 Q (Q302, 304)	2
50	0602880945	,, 2SC-945 Q (Q101, 201, 301, 303, 305, 306)	6
51	0602860900	,, 2SC-900 F (Q102, 103, 202, 203)	4
52	0708830030	Diode GP-30D (D301, 302, 303, 304)	4
53	0700820188	,, 1S-188 AM (D103, 104, 203, 204)	4
54	0701804002	,, 1N-4002 (D305)	1
55	0834811211	Varistor VD-1211 (D101, 201)	2
56	0833811212	,, 1S-1212 (D102, 202)	2
57	0801820003	L.E.D. (Light Emitting Diode) GL-3AR1	2
58	0655800024	3 Terminals Voltage Regulator μA-78M24CU (IC-3)	1
59	0655850024	,, ,, ,, μA-79M24CU (IC-4)	1
60	1873101218	Relay MY4-O2-US-L	1
61	1226201105	Push Switch SDG-5P (for Power)	4
62	1246101255	Lever Switch SLR543 (for Tape Dobbing)	1
63	1246101256	,, ,, SLR523 (for Tape Monitor)	1
64	1246101257	,, ,, SLR522 (for Mode)	3
65	1206201447	Rotary Switch SRF-363 (for Function)	1
66	1206201566	,, ,, 4–4 L=30 (for Speaker)	1
67	1304201336	Jack (6.5ø), for Headphone	1
68	1304201374	,, ,, for Microphone	1
69	1304201128	,, (DIN), PH, TU, AUX, TAPE x 2	5
70	1304201191	,, (DIN), Speaker	2
71	0116201605	Variable Resistor 250KB x 2, 250KW x 1 Volume & Balance	1
72	0116201437	Variable Resistor 100KB x 2, Bass & Treble	1
73	0116201546	,, ,, 10KA, Mic.	1
74	0107201440	Semi-fixed Variable Resistor 100B Idling Current Adjustment	2
75	0107201441	Semi-fixed Variable Resistor 2KB Meter Adjustment	2
76	0107201221	Semi-fixed Variable Resistor 50KB	2
77	1330201357	Fuse Holder	1
78	1330401155	Fuse Holder Lug	14
79	4110201358	Fuse Protector	1
80	1522401862	Fuse 315mAT	1
81	1522401864	,, 2.5AT (F301)	1
82	1522401865	,, 3.15AT (F101, 102, 201, 202)	4
83	1522401863	,, 6.3AT (F302, 303)	2
84	1490201553	Connector Socket (9P-11P)	1
85	1328201551	,, Plug (9P)	1
86	1328201552	,, Plug (11P)	1
87	1513401658	Lamp (12V-100mA)	2
88	1504101266	Level Meter (650R, 260μA)	2
89	1460201538	Printed Circuit Board A (Power Amp)	1
90	1460111179	,, ,, ,, B (Tone, Protector)	1
91	1460211536	,, ,, ,, C (Switch)	1
92	1460201539	,, ,, ,, D (Power Supply)	1
93	1460201392	,, ,, ,, E (Lamp)	1
94	1460402506	,, ,, ,, F (Speaker)	1

NO.	PARTS CODE NO.	DESCRIPTION	Q'TY
95	1460211449	Printed Circuit Board H (PH, TU, AUX, JACK)	1
96	1460401785	,, ,, ,, I (Headphone)	1
97	1460201575	,, ,, ,, K (PH, EQ, JACK)	1
98	1460401784	,, ,, ,, L (Indicator)	2
99	0906101268	Power Transformer (220V)	1
100	1402201343	AC Cord	1
101	4030401673	Cord Stopper	1
102	4030400434	Unitie Fastener	10
103	1340401787	Jumper Wire, L=10	30
104	1340401896	,, ,, L=15	10
105	1340401575	Lapping Pin, L=20	88
106	1350401969	Earth Pin	1
107	0041952278	Cement Resistor 0.27–3WK	4
108	0000922101	Solid Resistor 101K1–2W	4
109	0030922560	Metal Dioxide Film Resistor 560K-1-2W	1
110	0030942391	,, ,, ,, ,, 391K-2W	2
111	0014911100	Carbon Resistor 1/4WJ 10R	2
112	0014911101	,, ,, ,, 100R	2
113	0014911151	,, ,, ,, 150R	4
114	0014911271	,, ,, ,, 270R	2
115	0014911331	,, ,, ,, 330R	7
116	0014911471	,, ,, ,, 470R	1
117	0014911511	,, ,, ,, 510R	2
118	0014911561	,, ,, ,, 560R	4
119	0014911821	,, ,, ,, 820R	2
120	0014911102	,, ,, ,, 1KR	5
121	0014911152	,, ,, ,, 1.5KR	2
122	0014911182	,, ,, ,, 1.8KR	2
123	0014911222	,, ,, ,, 2.2KR	5
124	0014911392	,, ,, ,, 3.9KR	2
125	0014911472	,, ,, ,, 4.7KR	11
126	0014911682	,, ,, ,, 6.8KR	6
127	0014911822	,, ,, ,, 8.2KR	4
128	0014911332	,, ,, ,, 3.3KR	1
129	0014911103	,, ,, ,, 10KR	9
130	0014911123	,, ,, ,, 12KR	2
131	0014911153	,, ,, ,, 15KR	1
132	0014911183	,, ,, ,, 18KR	4
133	0014911223	,, ,, ,, 22KR	2
134	0014911273	,, ,, ,, 27KR	2
135	0014911562	,, ,, ,, 5.6KR	2
136	0014911563	,, ,, ,, 56KR	8
137	0014911823	,, ,, ,, 82KR	2
138	0014911393	,, ,, ,, 39KR	2
139	0014911474	,, ,, ,, 470KR	2
140	0014911104	,, ,, ,, 100KR	11
141	0014911154	,, ,, ,, 150KR	6
142	0014911394	,, ,, ,, 390KR	1
143	0014911514	,, ,, ,, 510KR	2

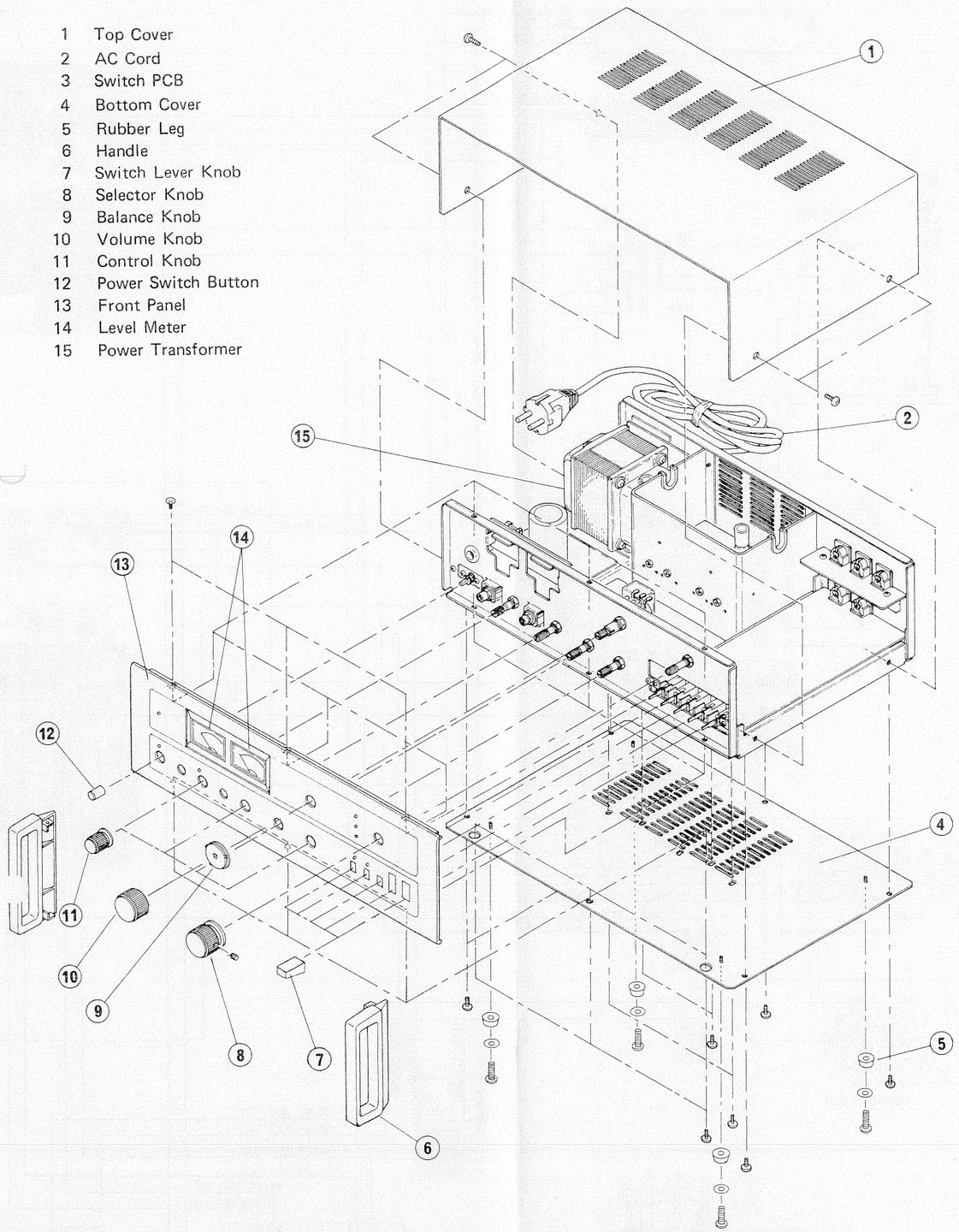
NO.	PARTS CODE NO.	DESCRIPTION	Q'TY
144	0014911105	Carbon Resistor 1/4WJ 1MR	2
145	0014911335	,, ,, ,, 3.3MR	2
146	0200905200	Ceramic Capacitor 50V 20PF	5
147	0200905330	,, ,, ,, 33PF	2
148	0200905101	,, ,, ,, 100PF	4
149	0200905201	,, ,, ,, 200PF	3
150	0210401888	Electrolytic Capacitor 50V 0.0047MF x 2	1
151	0210950478	,, ,, ,, 0.47MF	4
152	0210951109	,, ,, ,, 1MF	5
153	0210950339	,, ,, ,, 33MF	3
154	0210950479	,, ,, ,, 4.7MF	4
155	0210950100	,, ,, ,, 10MF	2
156	0210940470	,, ,, 35V 47MF	1
157	0210941101	,, ,, ,, 100MF	4
158	0210940221	,, ,, ,, 220MF	1
159	0210930479	,, ,, 25V 4.7MF	4
160	0210930101	,, ,, ,, 100MF	5
161	0210920100	,, ,, 16V 10MF	2
162	0210910470	,, ,, 10V 47MF	7
163	0210402511	Non-Polarity Electrolysis 50V 0.22MF	2
164	0220920192	Mylar Capacitor 50V 0.0019MF	2
165	0220920332	,, ,, ,, 0.0033MF	2
166	0220920682	,, ,, ,, 0.0068MF	2
167	0220920103	,, ,, ,, 0.01MF	2
168	0220920273	,, ,, ,, 0.027MF	2
169	0220920393	,, ,, ,, 0.039MF	2
170	0220920473	,, ,, ,, 0.047MF	2
171	0220930104	,, ,, 100V 0.1MF	1
172	0220920102	,, ,, 50V 0.001MF	2
173	8510402573	P.C.B. Fixing Tape D	1
174	8510402525	,, ,, ,, A	2
175	5010402555	Switch Cover B	2
176	4030401867	Push Rivet 3.5 x 5.5	4 pairs
177	5010402604	Cover Net	1
178	4920402544	Earth Label	1
179	0704850130	Diode DS-130Y	1
180	1240101269	Lever Switch SLR542	2
181	1460402509	Printde Circuit Board G	1
182	1460401859	,, ,, ,, J	1
183	0200905560	Ceramic Capacitor 50V 56PF	3
184	0200905100	,, ,, ,, 10PF	2
185	0210920470	Electrolytic Capacitor 16V 47MF	1
186	0220920102	Mylar Capacitor 50V 0.001MF	2

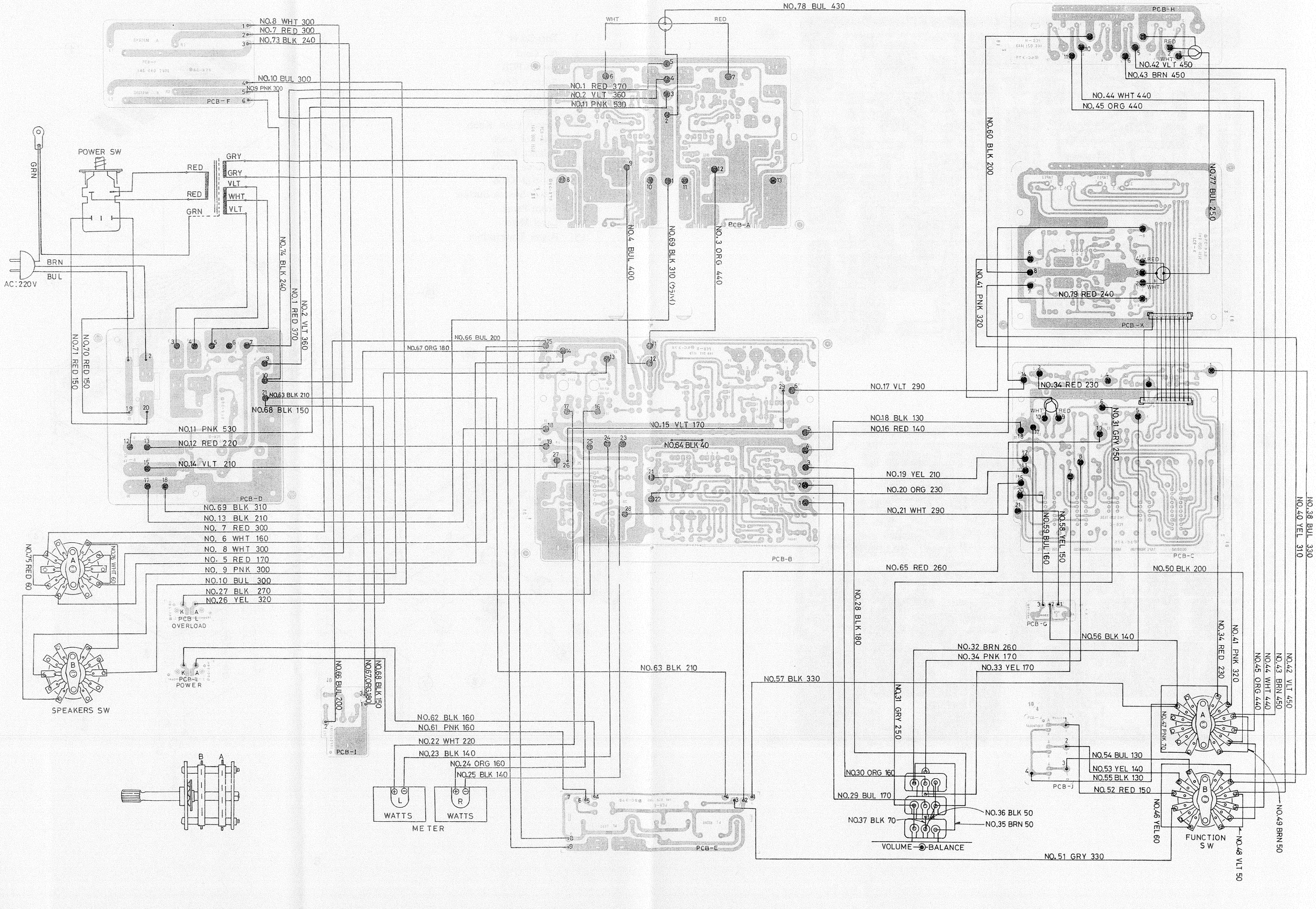
PCB-A



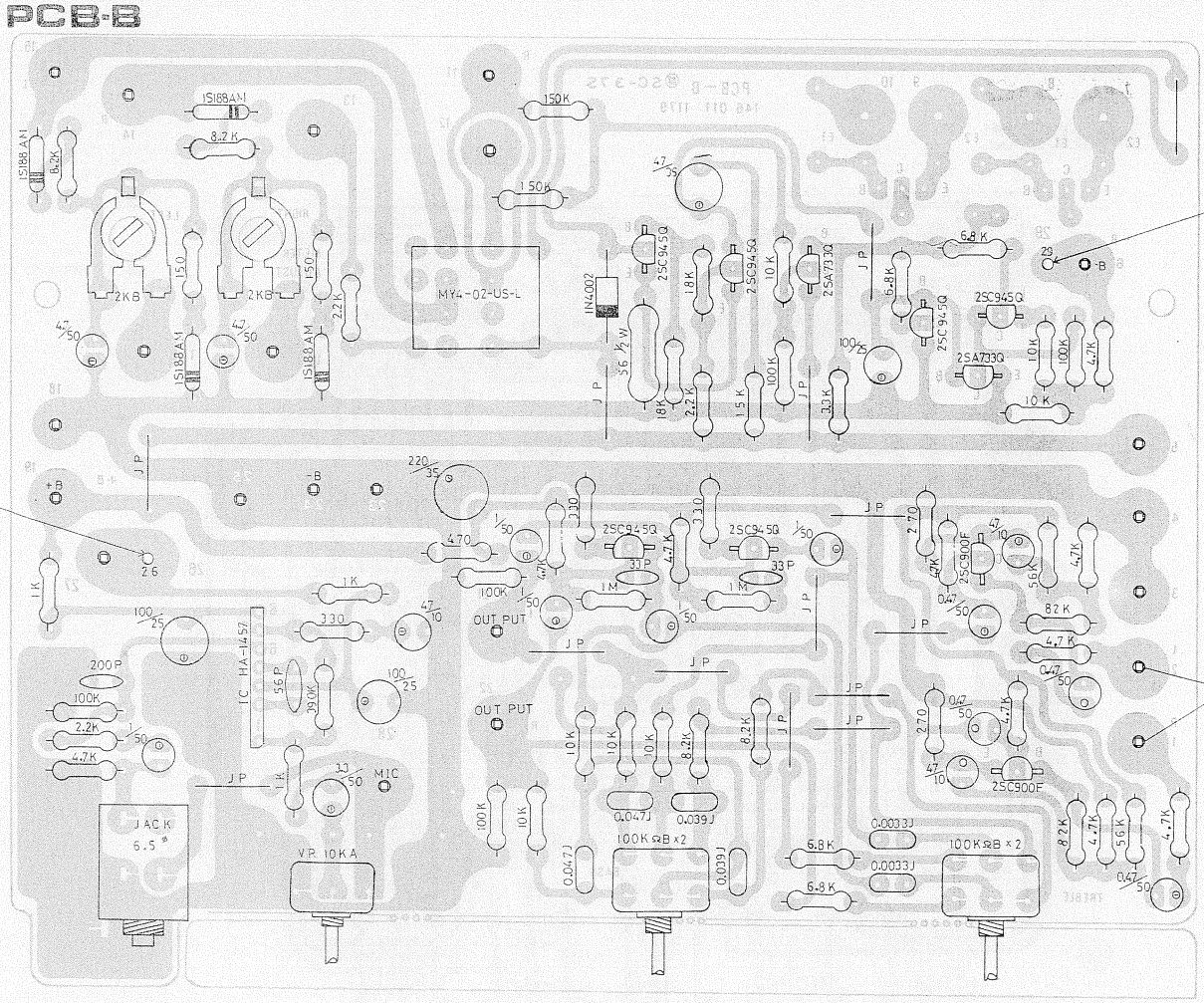
EXPLODED VIEW OF CHASSIS AND CABINET

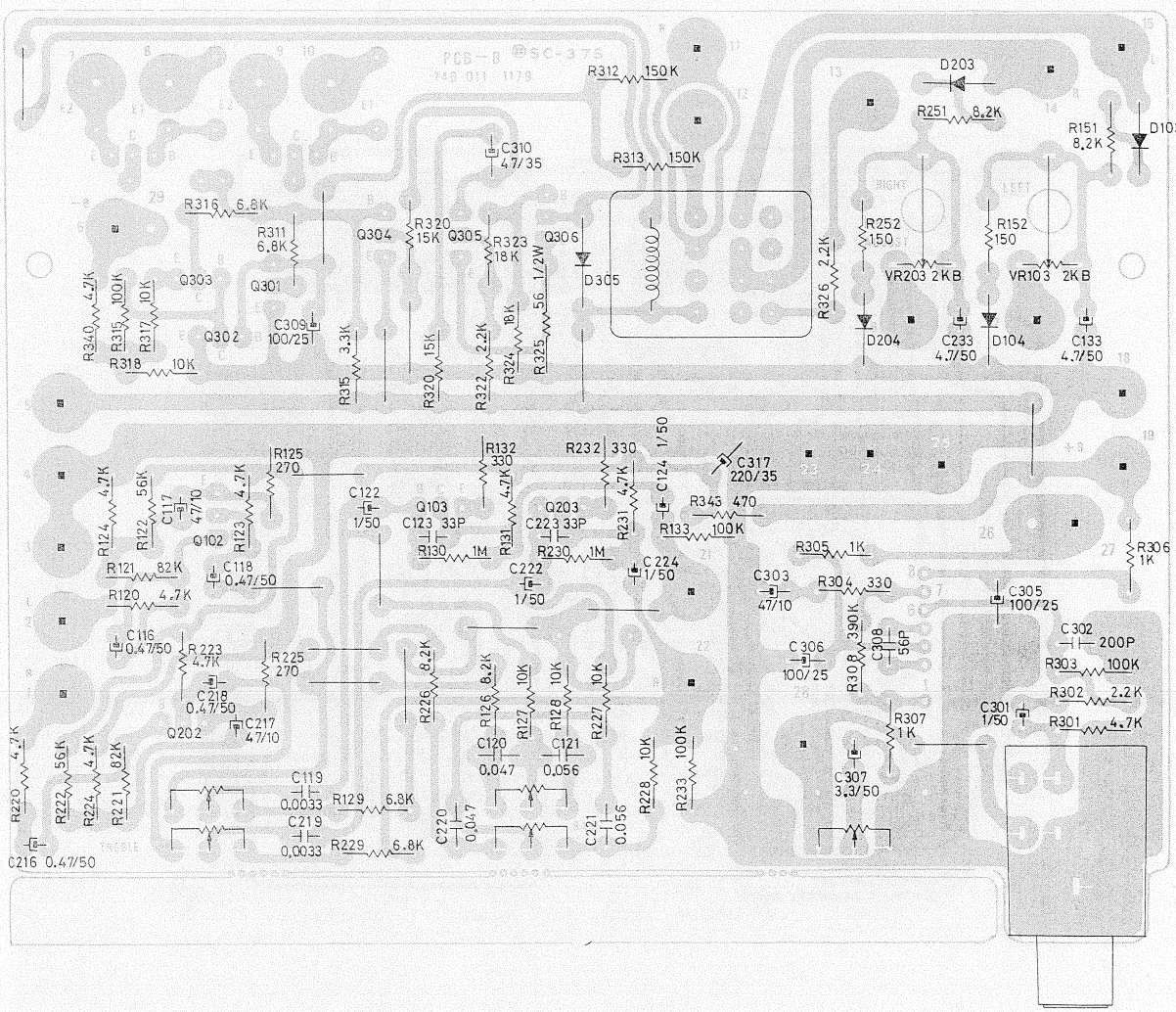
1 Top Cover
2 AC Cord
3 Switch PCB
4 Bottom Cover
5 Rubber Leg
6 Handle
7 Switch Lever Knob
8 Selector Knob
9 Balance Knob
10 Volume Knob
11 Control Knob
12 Power Switch Button
13 Front Panel
14 Level Meter
15 Power Transformer



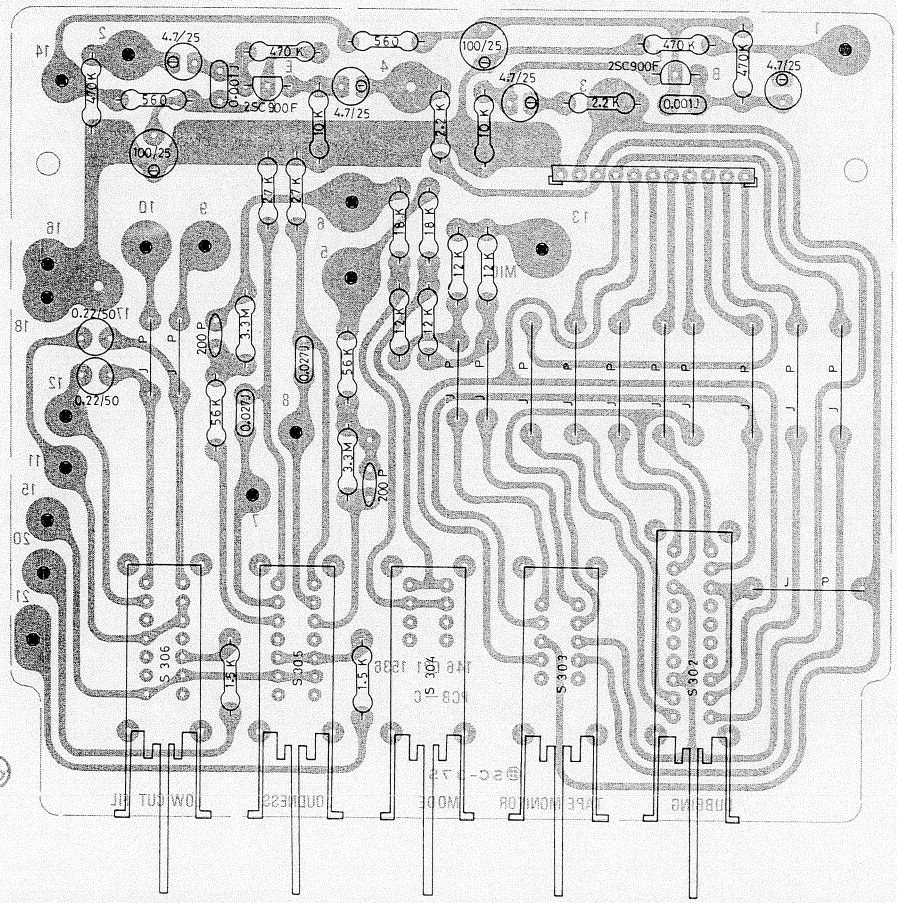

NO.8 WHT 300
NO.7 RED 300
NO.73 BLK 240
NO.10 BUL 300
NO.9 PNK 300
PCB-F
POWER SW
GRN
RED
RED
GRN
GRY
GRY
VLT
WHT
VLT
BRN
BUL
AC:220V
NO.74 BLK 240
NO.1 RED 370
NO.2 VLT 360
NO.71 RED 150
NO.70 RED 150
NO.63 BLK 210
NO.68 BLK 150
NO.11 PNK 530
NO.12 RED 220
NO.14 VLT 210
PCB-D
NO.69 BLK 310
NO.13 BLK 210
NO. 7 RED 300
NO. 6 WHT 160
NO. 8 WHT 300
NO. 5 RED 170
NO. 9 PNK 300
NO.10 BUL 300
NO.27 BLK 270
NO.26 YEL 320
NO.75 RED 60
NO.76 WHT 60
PCB-L
OVERLOAD
SPEAKERS SW
PCB-E
POWER
NO.66 BUL 200
NO.67 ORG 180
NO.68 BLK 150
PCB-I
NO.62 BLK 160
NO.61 PNK 160
NO.22 WHT 220
NO.23 BLK 140
NO.24 ORG 160
NO.25 BLK 140
WATTS
WATTS
METER
WHT
RED
NO.78 BUL 430
NO.1 RED 370
NO.2 VLT 360
NO.11 PNK 530
NO.4 BUL 400
NO.69 BLK 310
NO.3 ORG 440
PCB-A
NO.66 BUL 200
NO.67 ORG 180
NO.15 VLT 170
NO.64 BLK 40
PCB-B
NO.63 BLK 210
NO.57 BLK 330
NO.65 RED 260
NO.28 BLK 180
NO.31 GRY 250
NO.30 ORG 160
NO.29 BUL 170
NO.37 BLK 70
NO.36 BLK 50
NO.35 BRN 50
VOLUME
BALANCE
PCB-E
NO.17 VLT 290
NO.18 BLK 130
NO.16 RED 140
NO.19 YEL 210
NO.20 ORG 230
NO.21 WHT 290
PCB-C
NO.51 GRY 330
PCB-H
RED
WHT
NO.42 VLT 450
NO.43 BRN 450
NO.44 WHT 440
NO.45 ORG 440
NO.60 BLK 200
NO.77 BUL 250
NO.41 PNK 320
NO.79 RED 240
PCB-K
NO.34 RED 230
NO.31 GRY 250
NO.58 YEL 150
NO.59 BUL 160
PCB-G
NO.50 BLK 200
NO.56 BLK 140
NO.32 BRN 260
NO.34 PNK 170
NO.33 YEL 170
NO.54 BUL 130
NO.53 YEL 140
NO.55 BLK 130
NO.52 RED 150
PCB-J
NO.47 PNK 70
NO.46 YEL 60
FUNCTION SW
NO.38 BUL 330
NO.40 YEL 310
NO.42 VLT 450
NO.43 BRN 450
NO.44 WHT 440
NO.45 ORG 440
NO.41 PNK 320
NO.34 RED 230
NO.49 BRN 50
NO.48 VLT 50

PCB-B

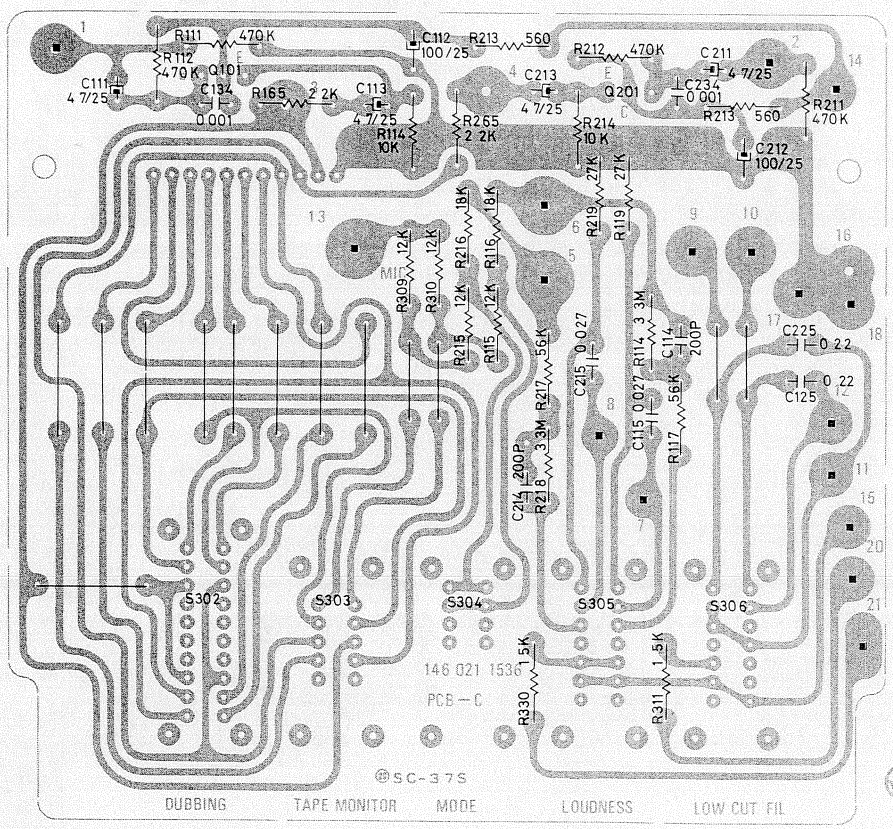

No.15 170
No.15 170
IN PUT
OUT PUT
OUT PUT
MY4-02-US-L
IC HA-1457
JACK 6.5φ
VR 10KA
MIC
100KΩB x2
100KΩB x2
1S188AM
1S188AM
1S188AM
1S188AM
IN4002
2SC945Q
2SC945Q
2SC945Q
2SC945Q
2SC945Q
2SC900F
2SC900F
2SA733Q
2SA733Q
2SA733Q


PCB-B ®SC-375
R312 150K
R313 150K
C310 47/35
D203
R251 8.2K
R151 8.2K
D103
R316 6.8K
R311 6.8K
Q304
R320 15K
Q305
R323 18K
Q306
D305
R326 2.2K
R252 150
VR203 2KB
R152 150
VR103 2KB
D204
C233 4.7/50
D104
C133 4.7/50
R340 4.7K
R315 100K
R317 10K
Q303
Q301
Q302
C309 100/25
R318 10K
R315 3.3K
R320 15K
R322 2.2K
R324 18K
R325 56 1/2W
R125 270
R132 330
R232 330
C124 1/50
C317 220/35
R343 470
R133 100K
R124 4.7K
R122 56K
C117 47/10
R123 4.7K
Q102
Q103
C123 33P
R130 1M
R131 4.7K
Q203
C223 33P
R230 1M
R231 4.7K
C222 1/50
C224 1/50
R121 82K
C118 0.47/50
R120 4.7K
C116 0.47/50
R223 4.7K
C218 0.47/50
R225 270
C217 47/10
Q202
R226 8.2K
R126 8.2K
R127 10K
R128 10K
R227 10K
C120 0.047
C121 0.056
R220 4.7K
R222 56K
R224 4.7K
R221 8.2K
C119 0.0033
C219 0.0033
R129 6.8K
R229 6.8K
C220 0.047
C221 0.056
R228 10K
R233 100K
C216 0.47/50
R305 1K
R304 330
C303 47/10
C305 100/25
R306 1K
C306 100/25
R308 390K
C308 56P
C302 200P
R303 100K
R302 2.2K
R307 1K
C301 1/50
R301 4.7K
C307 3.3/50

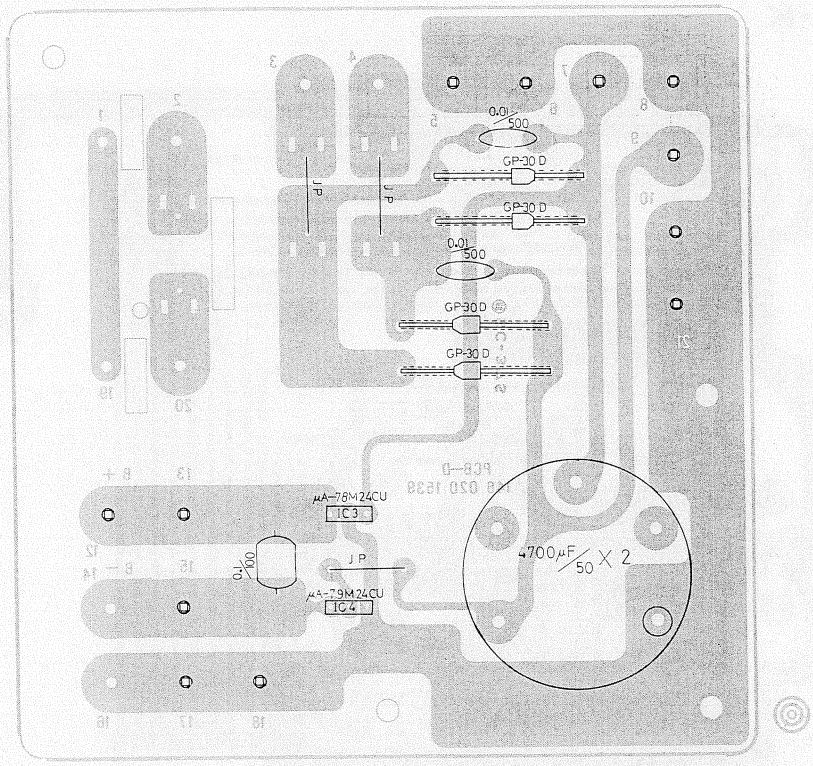
PCB-C



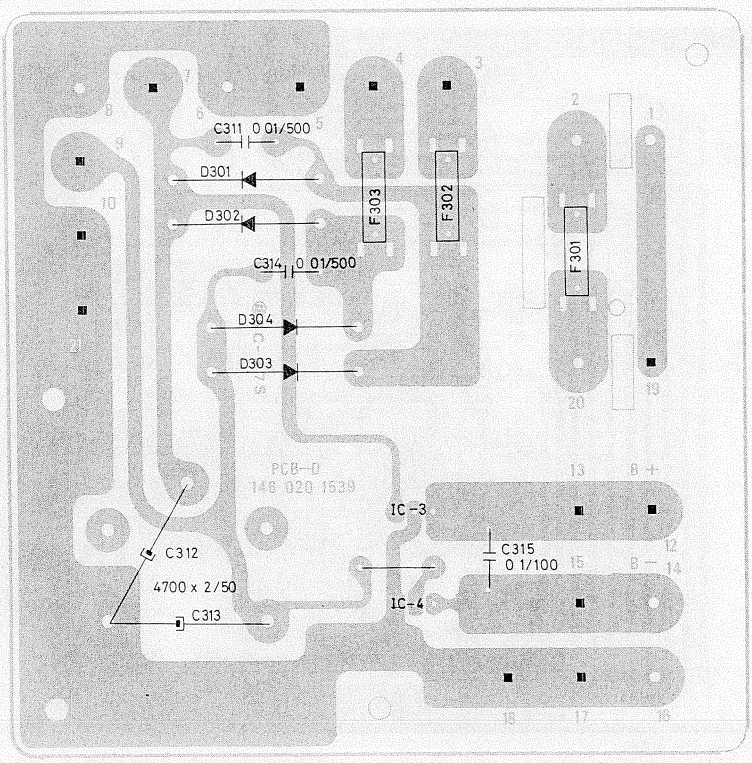
WIRE-WRAPPED TERMINAL



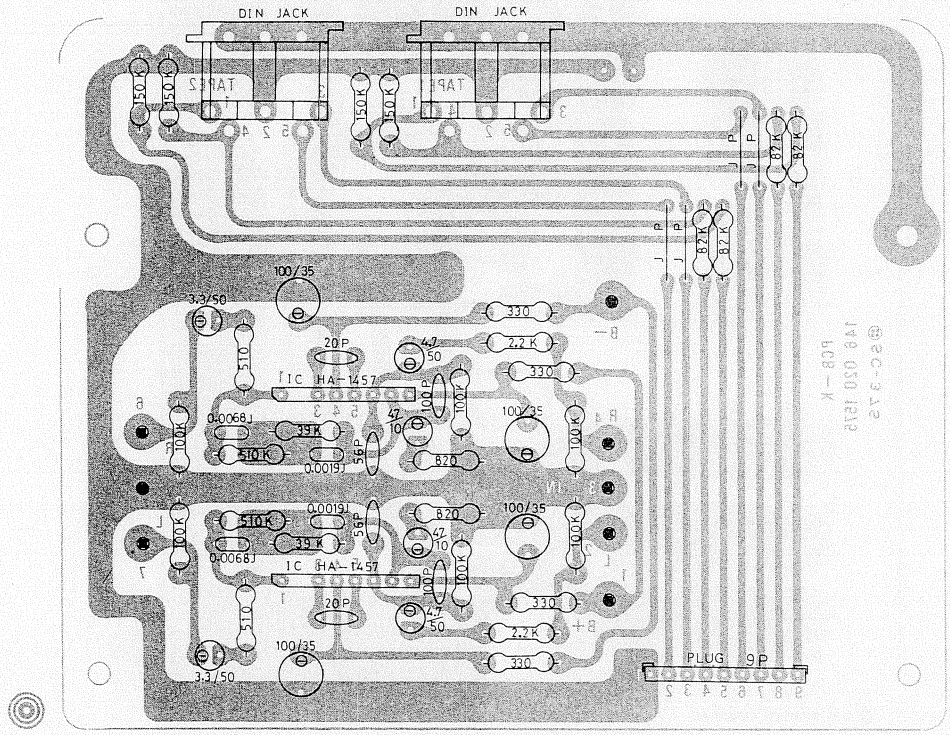
PCB-D



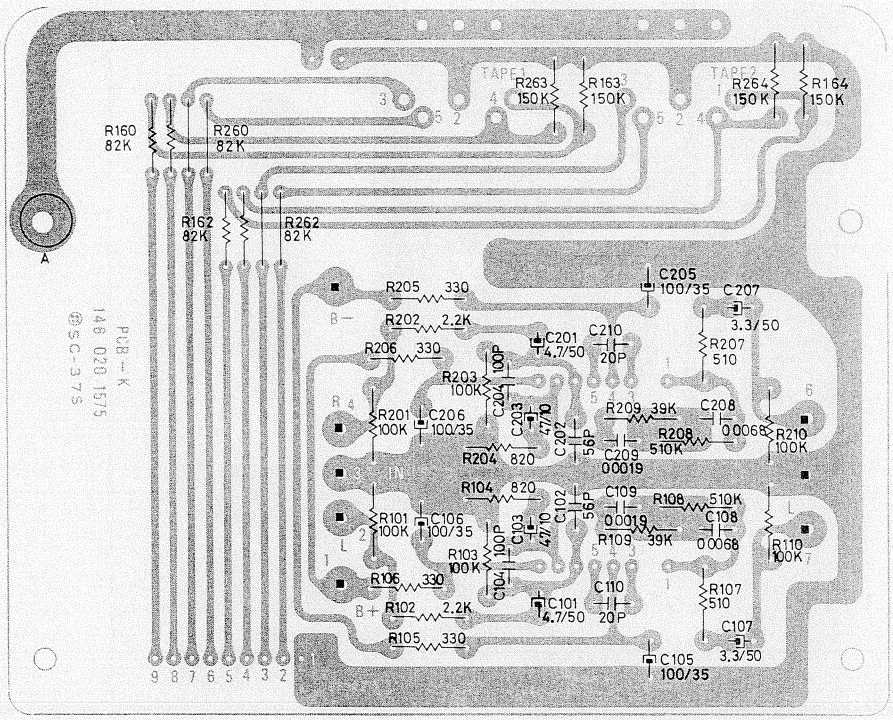
WIRE-WRAPPED TERMINAL



PCB·K



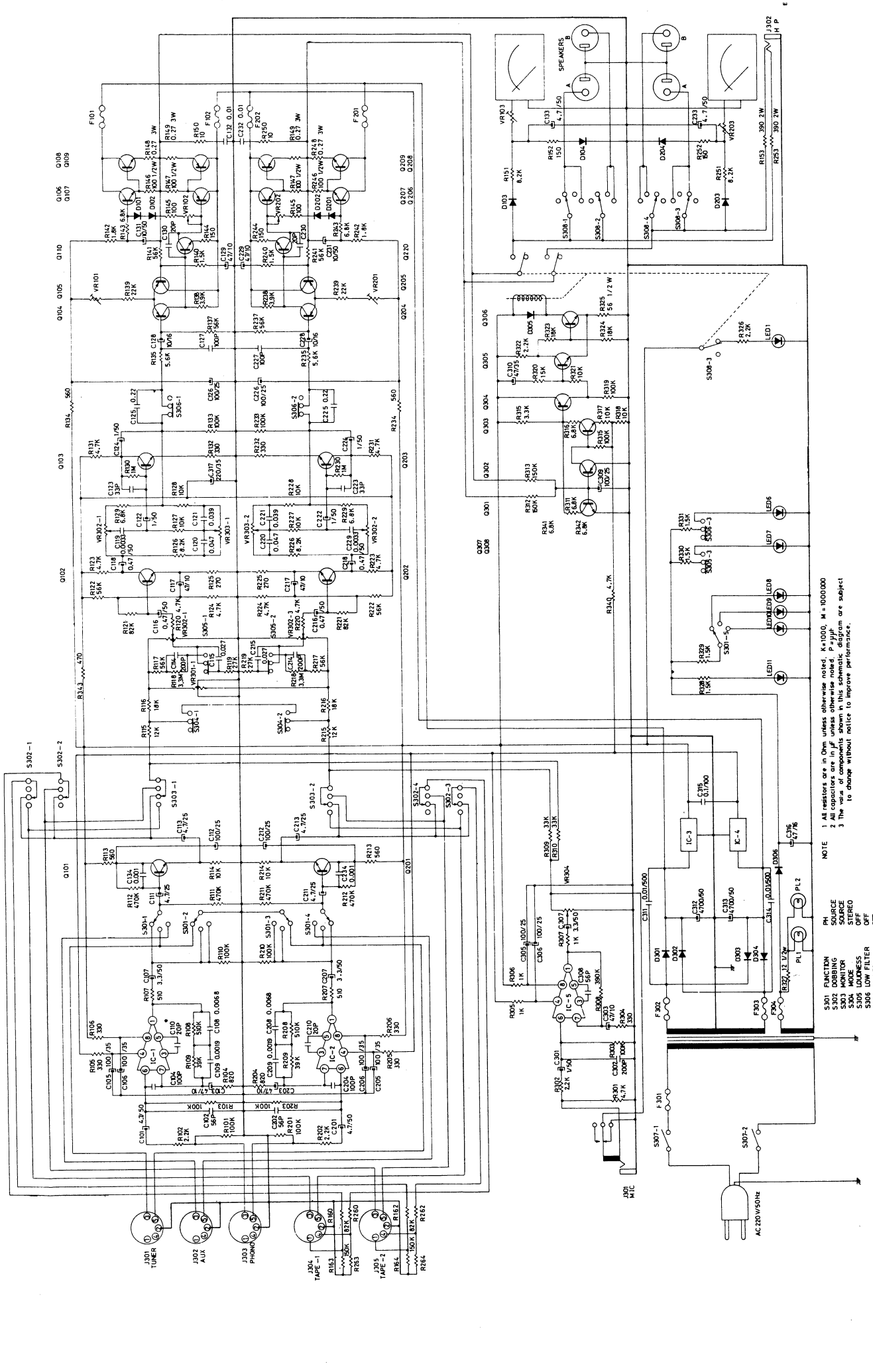
● : WIRE-WRAPPED TERMINAL



■ WIRE-WRAPPED TERMINAL

◯A THIS PART MUST BE SOLDERED FOR CONNECTION TO THE CHASSIS

SCHEMATIC DIAGRAM


NOTE
1 All resistors are in Ohm unless otherwise noted. K=1000, M=1000000
2 All capacitors are in μF unless otherwise noted. P=μμF
3 The value of components shown in this schematic diagram are subject to change without notice to improve performance.
S301 FUNCTION PH
S302 DOBBING SOURCE
S303 MONITOR SOURCE
S304 MODE STEREO
S305 LOUDNESS OFF
S306 LOW FILTER OFF
S307 POWER OFF
S308 SPEAKER A
SPEAKERS
J301 TUNER
J302 AUX
J303 PHONO
J304 TAPE-1
J305 TAPE-2
J201 MIC
AC 220V/50Hz